BEFORE THE
PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA

DOCKET NO. 2019-224-E
DOCKET NO. 2019-225-E

In the Matter of:	)	
	)	
South Carolina Energy Freedom Act (House Bill 3659) Proceeding Related to S.C. Code Ann. Section 58-37-40 and Integrated Resource Plans for Duke Energy Carolinas, LLC and Duke Energy Progress, LLC	)	**REBUTTAL TESTIMONY OF MARK OLIVER ON BEHALF OF DUKE ENERGY CAROLINAS, LLC AND DUKE ENERGY PROGRESS, LLC**

I. INTRODUCTION AND SUMMARY

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Robert Mark Oliver and my business address is 526 South Church Street, Charlotte, North Carolina.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Duke Energy Corporation ("Duke Energy") as Vice President, Integrated System Planning.

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL EXPERIENCE.

A. I have a B.S. in Mechanical Engineering from North Carolina State University, and an M.B.A. from the University of North Carolina in Wilmington. I am licensed as a Professional Engineer in North Carolina. I have been employed by Duke Energy for 28 years, which includes experience in unit commitment and dispatch optimization, power trading analytics, fuel and operations planning, and nuclear systems engineering. In my current role, I lead the Integrated System Planning group, which includes Integrated Resource Planning ("IRP") as well as Integrated System & Operations Planning ("ISOP").

Q. DID YOU PREVIOUSLY FILE DIRECT TESTIMONY IN THIS PROCEEDING?

A. No.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA?

A. No.

Q. ARE YOU INCLUDING ANY EXHIBITS IN SUPPORT OF YOUR REBUTTAL TESTIMONY?

A. Yes. As explained below, I am sponsoring Oliver Rebuttal Exhibits 1 and 2.

Q. WERE THESE EXHIBITS PREPARED BY YOU OR AT YOUR DIRECTION AND UNDER YOUR SUPERVISION?

A. Yes. These exhibits were prepared by me or at my direction and under my supervision.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THIS PROCEEDING?

A. My rebuttal testimony responds to certain assertions and recommendations made by Vote Solar Witness Tyler Fitch related to ISOP.

II. BACKGROUND ON ISOP

Q. PLEASE DESCRIBE THE COMPANIES' ISOP INITIATIVE.

A. ISOP is a planning framework that optimizes capacity and energy resource investments across generation, transmission, distribution, and customer solutions. The ISOP team is developing an integrated planning framework for Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC ("DEP," together with DEC, the "Companies") to coordinate distribution and transmission planning with the generation planning that is conducted through the IRP process. That coordinated planning could allow the Companies to account for the potential of distributed energy resources and innovative customer programs to provide value across multiple use cases, potentially deferring capacity needs across distribution, transmission and/or generation. The Companies are planning to formally include the ISOP framework in the 2022 IRPs, and have shared about development of ISOP in the 2018, 2019 and now the 2020 IRPs.

Q. HOW ARE YOU ENGAGING STAKEHOLDERS IN THE ISOP PROCESS?

A. Prior to formally including the ISOP framework in the 2022 IRPs, the Companies have taken a collaborative approach to information sharing in parallel with the development process. The Companies proactively launched a stakeholder engagement effort beginning in 2019, including a series of stakeholder webinars and workshops to inform the development of ISOP modeling tools and analytical processes, reach a common understanding of key issues, and assess achievable, beneficial outcomes for our customers and other stakeholders through information sharing and constructive discussions. The Companies plan to continue the stakeholder engagement effort until the basic elements of the ISOP planning framework are incorporated in the Companies' 2022 IRPs. As part of this effort, the Companies have provided stakeholders with an ISOP Reference Information Portal (www.duke-energy.com/our-company/isop) along with an easily accessible means to communicate outstanding questions or concerns related to ISOP by email directly to the ISOP team (ISOP-engagement@Duke-Energy.com). A final report from ICF on the four ISOP stakeholder engagement sessions ("ICF Stakeholder Report") is attached as Oliver Rebuttal Exhibit 1 and is also available on the Duke Energy ISOP Reference Information Portal.[1]

[1] Duke Integrated System and Operations Planning Stakeholder Engagement Report, ICF, *available at* https://www.duke-energy.com/_/media/pdfs/our-company/isop/icf-duke-isop-stakeholder-engagement-report.pdf.

III. RESPONSE TO ISOP RECOMMENDATIONS

Q. WHAT RECOMMENDATIONS DID VOTE SOLAR WITNESS TYLER FITCH MAKE RELATED TO ISOP?

A. Beginning at Page 99 of his Direct Testimony, Mr. Fitch recommends that the Commission should direct the Companies to do the following in their Short-Term Action Plan:

- Continue development of ISOP, ensuring that the capabilities developed are in line with integrated distribution plan best practices and incorporate climate-related risks and benefits;
- The Companies should develop a 'no-regrets' screen to ensure that investments that could be deferred with ISOP-capable distributed energy resources ("DERs") are not made before ISOP is operational; and
- To ensure analytical capabilities are being developed appropriately, the Commission could schedule regular technical ISOP conferences with the Companies.

I will respond to each of these recommendations and explain why they do not need to factor into the Commission's order in this proceeding.

Q. HOW DO YOU RESPOND TO WITNESS FITCH'S RECOMMENDATION THAT THE COMMISSION SHOULD DIRECT THE COMPANIES TO "CONTINUE DEVELOPMENT OF ISOP"[2] IN LINE WITH BEST PRACTICES?

A. No such directive is needed from the Commission, since the Companies are already developing ISOP for the 2022 IRPs and doing so in line with best practices. As noted in the ICF Stakeholder Report (Oliver Rebuttal Exhibit 1), the ISOP stakeholder engagement efforts included reviews of the national landscape for integration of utility planning

[2] Vote Solar Fitch Direct, at 99.

functions and leveraging locational value in Workshops 1 and 2, respectively. Mr. Fitch references a report issued by the Smart Electric Power Alliance ("SEPA") titled "Integrated Distribution Planning: A Framework for the Future" ("SEPA IDP Report").[3] Fortunately, the ISOP team at Duke Energy participated in SEPA's development of the report, in order to ensure that the Companies are in line with industry best practices on Integrated Distribution Planning ("IDP"). That report is attached hereto as Oliver Rebuttal Exhibit 2. The ISOP team has also supported the National Association of Regulatory Utility Commissioners and the National Association of State Energy Officials Task Force on their Comprehensive Energy Planning effort as a Utility Planner/Subject Matter Expert, has consistently engaged with related Electric Power Research Institute programs, and has taken the initiative to exchange information with other utilities embarking on this type of integration such as Southern California Edison, Hawaiian Electric, NV Energy, Arizona Public Service Electric, Salt River Project, Dominion (NC/VA), and DTE Energy (formerly Detroit Edison). In short, the Companies are already continuing to develop ISOP in accordance with best practices.

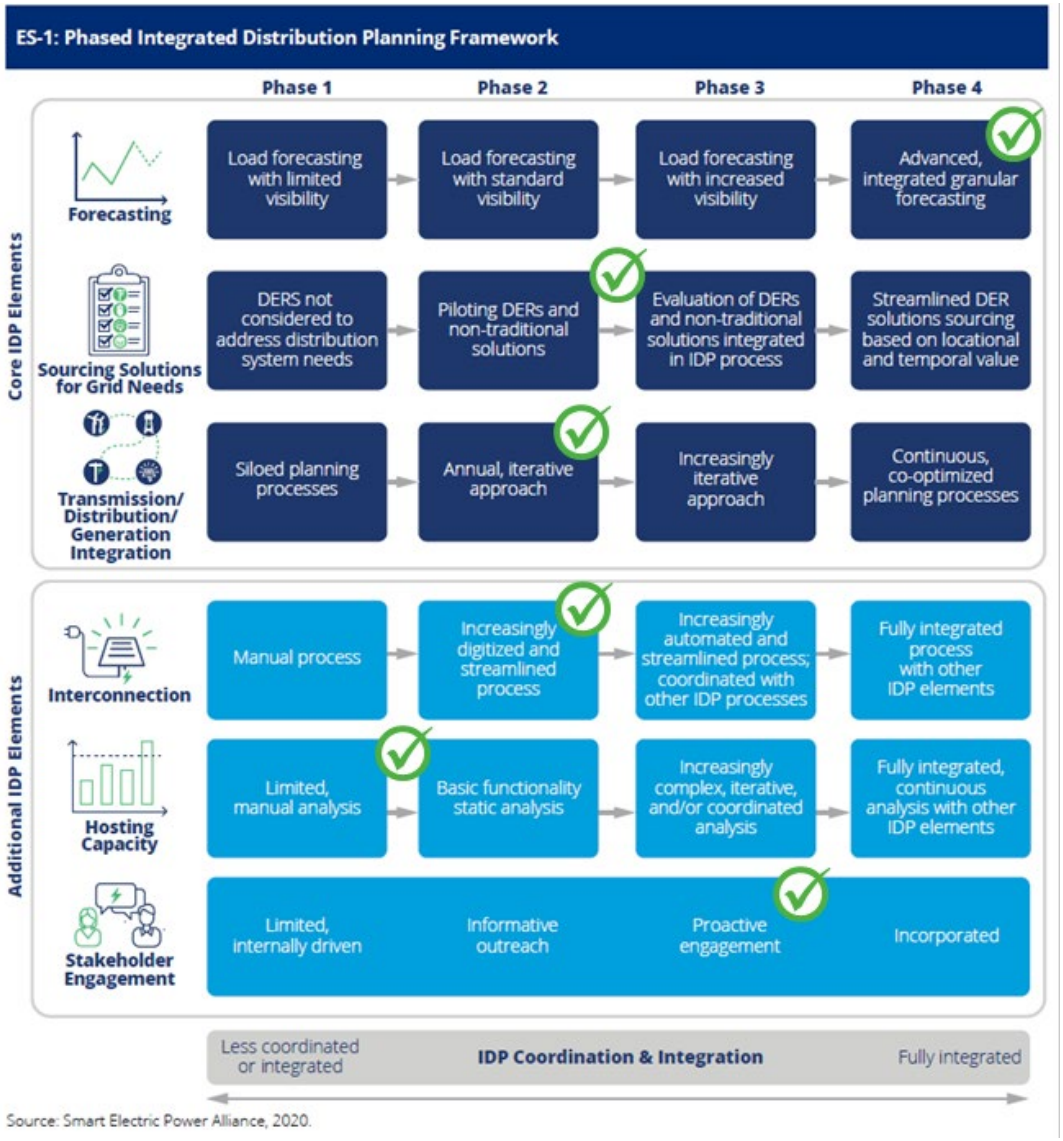
Q. WHAT DID YOU LEARN IN THE BENCHMARKING EXERCISE PROVIDED BY THE SEPA IDP REPORT?

A. Duke Energy found that it is proceeding along at a reasonable pace through the "Phased IDP Framework" depicted in the SEPA IDP Report as shown in Figure 1 below. The check marks overlaid on the graphic of Figure 1 indicate the ISOP team's assessment of progress on each of the IDP elements in the Phased IDP Framework as of early 2021. The

[3] Vote Solar Fitch Direct, at 52.

Companies expect to continue advancing along this spectrum as needed to formally introduce the basic elements of ISOP processes in their 2022 IRPs.

Oliver Rebuttal Figure 1: Phased Integrated Distribution Planning Framework



Source: Smart Electric Power Alliance, 2020.

Q. DOES THE SEPA IDP REPORT PROVIDE BEST PRACTICES FOR INCORPORATING "CLIMATE-RELATED RISKS AND BENEFITS"?

A. Not directly, although the SEPA IDP Report does note that "For certain utilities, increasing their resilience against man-made threats and natural disasters is an important factor when

considering short- and long-term distribution planning."[4] At this time, it does not appear that Mr. Fitch's benchmark for IDP best practices would substantiate his recommendation that ISOP should incorporate climate-related risks or benefits in any specific way. The practical difficulty with Mr. Fitch's recommendation is that there is not an accepted standard for how to quantify "climate-related risks and benefits" in economic terms suitable for incorporation in evaluations of traditional versus non-traditional solutions.

Q. MR. FITCH STATES THAT THE COMMISSION SHOULD DIRECT THE COMPANIES TO ENSURE THAT INTEGRATED DISTRIBUTION PLANNING PROCESSES CONSIDER PHYSICAL AND TRANSITION CLIMATE-RELATED RISKS, AND INCLUDE THE BENEFITS OF MANAGING THOSE RISKS IN THEIR COST-BENEFIT EVALUATIONS.[5] DO YOU AGREE WITH THIS RECOMMENDATION?

A. No. While it is reasonable to conclude that there are risks to the distribution system related to climate transition, there is no proven objective approach for quantifying such costs in a way that could be reasonably utilized in financial analysis of investment alternatives.

Q. MR. FITCH STATES THAT "WHILE ISOP CAPABILITIES ARE BEING DEVELOPED, THE COMPANIES SHOULD AVOID MOVING FORWARD WITH GENERATION, DISTRIBUTION, OR TRANSMISSION INVESTMENTS THAT COULD BE DEFERRED OR DISPLACED BY DERs IF ANALYTICAL CAPABILITIES WERE ALREADY IN PLACE."[6] HOW DO YOU RESPOND?

A. I do not believe Witness Fitch's recommendation is prudent or practical, nor is it necessary.

[4] Oliver Rebuttal Exhibit 2, at 17.
[5] Vote Solar Fitch Direct, at 53.
[6] Vote Solar Fitch Direct, at 53-54.

In fact, that recommendation contradicts the SEPA report that Witness Fitch referenced for best practices in IDP: "Investment in distribution infrastructure is part of a foundation of capital and operational investments that includes asset planning, reliability and resilience, and grid modernization investments."[7] Placing a requirement on the Companies to perform extensive, complex analyses on these existing projects could hinder the Companies' ability to complete them in a timely manner, resulting in delays that could be detrimental to reliability and resilience for customers. Therefore, the very modest economic risks of missing an opportunity to displace a traditional investment with non-traditional investments are significantly outweighed by the reliability and resiliency risks to customers of putting planned projects on hold. Furthermore, as noted below, the Companies are developing a screening process to minimize the potential for missed opportunities.

Q. MR. FITCH STATES THAT "THE COMPANIES SHOULD DEVELOP A 'NO-REGRETS' SCREEN TO ENSURE THAT INVESTMENTS THAT COULD BE DEFERRED WITH ISOP-CAPABLE DERs ARE NOT MADE BEFORE ISOP IS OPERATIONAL."[8] HOW DO YOU RESPOND?

A. This recommendation is also unnecessary. As shared in the stakeholder meetings mentioned previously in my testimony, the Companies are already developing screening processes to vet existing projects, and preliminary results indicate very few projects that are close enough to economic viability to warrant detailed evaluation. Of those that are eligible to undergo the detailed evaluation, finding non-traditional solutions that are more economic than traditional solutions has been a challenge. This observation was confirmed

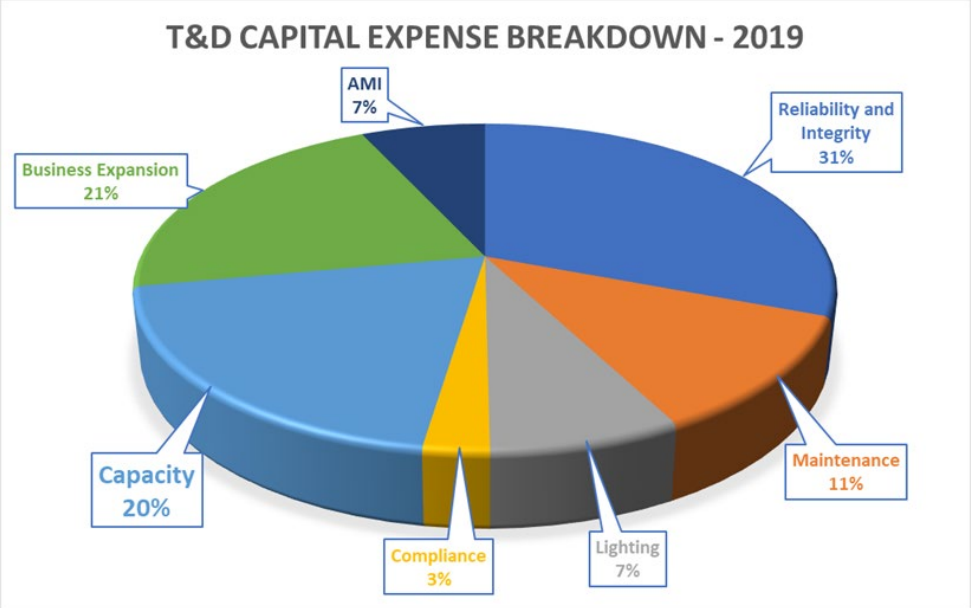
[7] Oliver Rebuttal Exhibit 2, at 16-17.
[8] Vote Solar Fitch Direct, at 99.

to be consistent with observations in other states by ICF, the facilitator of the Companies' stakeholder engagement effort.

Q. WHY ARE THE COMPANIES' SCREENING PROCESSES UNLIKELY TO TURN UP OPPORTUNITIES TO DEFER GENERATION, TRANSMISSION OR DISTRIBUTION INVESTMENTS IN THE NEAR TERM?

A. As shown in Figure 2 below, about 80% of the Companies' total distribution and transmission system capital expenses are not related to capacity upgrades, but rather are routine expenditures to fulfill mandates, execute service extensions for new customers and businesses, operate fleets, perform maintenance, and conduct asset health and reliability programs.

Oliver Rebuttal Figure 2: T&D Capital Expense Breakdown, 2019



These opportunities are further limited over the next three to five years by the relatively high cost of non-traditional solutions such as battery storage, which are expected to fall by nearly 50% by 2030, as referenced in Appendix H to the IRPs. With respect to use of

demand-side resources such as new customer programs and rate designs, their suitability for serving a reliability function requires further evaluation to ensure that program development, forecasted adoption and customer behavior can be ensured to meet reliability needs. In light of the very modest prospects for non-traditional solutions over the next three to five years, there should be sufficient opportunity with several years of regulatory vetting of new modeling processes and results before material levels of ISOP-related project investment are brought forward.

Q. DO THE COMPANIES ALREADY HAVE SUBSTANTIAL DERs ON THEIR SYSTEMS?

A. Yes. There is significant Qualifying Facility energy on the grid already serving the Companies' customers in the Carolinas, with the majority located within the DEP balancing area. As of February 28, 2021, over 3,000 MWs of installed solar has been interconnected to the DEP system and is injecting energy as weather conditions permit, and over 1,140 MWs of additional installed solar is interconnected and injecting into the DEC system. Collectively – between DEC and DEP, there is also approximately 1,700 MW of solar in the interconnection queue with a status of "under construction," and over 9,400 MW in the interconnection queue with a status of "in study." The Companies also have projects in place for microgrids and batteries, and all of these functions are developing contemporaneously with ISOP in a disciplined fashion. According to the Solar Energy Industry Association website, the Carolinas are among the national leaders in installed solar, with South Carolina ranked 12th and North Carolina ranked 3rd nationally. These facts illustrate that the Companies have been and continue to support rapid development of DERs.

Q. FINALLY, HOW DO THE COMPANIES PLAN TO ENGAGE THE COMMISSION AND STAKEHOLDERS AS ISOP CONTINUES TO DEVELOP?

A. The Companies will continue to provide ISOP updates to the Commission in future IRP filings, and would support any allowable ex-parte briefings the Commission deems appropriate for learning more about the status of ISOP. As mentioned previously in my testimony, the Companies have undertaken significant stakeholder engagement efforts on ISOP and provide access to many relevant materials on their online ISOP portal. In keeping with the intended spirit of transparency and collaboration, the Companies welcome any opportunity to address outstanding questions to the extent the Commission deems appropriate and helpful.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.